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(54) **LEARNING DATA AUGMENTATION POLICIES**

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See application file for complete search history.

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(57) **ABSTRACT**

Methods, systems, and apparatus, including computer programs encoded on a computer storage medium, for learning a data augmentation policy for training a machine learning model. In one aspect, a method includes: receiving training data for training a machine learning model to perform a particular machine learning task; determining multiple data augmentation policies, comprising, at each of multiple time steps: generating a current data augmentation policy based on quality measures of data augmentation policies generated at previous time steps; training a machine learning model on the training data using the current data augmentation policy; and determining a quality measure of the current data augmentation policy using the machine learning model after it has been trained using the current data augmentation policy; and selecting a final data augmentation policy based on the quality measures of the determined data augmentation policies.

18 Claims, 6 Drawing Sheets